

FEMALE.—Head narrower than pronotum; anterior angles of clypeus slightly produced; seventh visible sternite lobed.

LENGTH.—2.5–3.1 mm. (Fig. 1).

TYPE LOCALITY.—Not recorded but presumably Germany.

Location of type probably in the Zoologische Museum, Berlin.

This species is easily known by its strongly reticulate head and pronotum.

Previously known from the Palaearctic and Asiatic regions where it has been reported from “dung and decaying matter.” A single female was taken on highway 30 two miles east of North Platte, Lincoln County, Nebraska, elevation 2,800 feet, 23 July 1970 by vacuum from emergent vegetation associated with a marsh by T. W. Fisher and R. E. Orth.

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A Review of the Genus *Leptopteromyia* in the Western Hemisphere¹

(Diptera: Leptogastridae)

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In 1907 Williston published the *nomen nudum* *Leptopteromyia*, but he validated the name in 1908 by publishing a figure of *Leptopteromyia*

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gracilis Williston from Brazil. Aldrich (1923) designated *L. gracilis* as the type of *Leptopteromyia*. Hermann (1924) designated his *nomen nudum* *L. willistoni* Hermann from Mexico as the type of *Leptopteromyia*. Hardy (1947) described the second species *L. americana* Hardy from southern Texas. Carrera (1947) discussed *Leptopteromyia* and designated a specimen from Estado Rio Janeiro, Quinta Boa Cista e Jardim Botanica, Brasil, as the neotype of *L. gracilis*. The location of either Williston's or Hermann's holotype specimens is unknown.

Leptopteromyia is represented in collections by only a small number of specimens. Of the six species described here, four are represented by only one specimen each, and two species by three specimens each. *Leptopteromyia americana* is represented by 15 or 20 specimens.

Loans of specimens by the following colleagues makes it possible to describe six new species of *Leptopteromyia* from Mexico and South America. Dr. Paul H. Arnaud, Jr., California Academy of Sciences (CAS); Mr. Eric Fisher, Long Beach State College (Type, gift to CAS); Dr. H. de Souza Lopes, Academia Brasileira Cienias, Rio de Janeiro, Brasil (ABC); Dr. Nelson Papavero, São Paulo Universidade, São Paulo, Brasil (SPU); Dr. A. Willinik, Universidad Nacional de Tucuman, Tucuman, Argentina. In my personal collection is a Brazilian species collected by the indefatigable Fritz Plauman, Nuevo Teutonia, Brasil (CHM).

LEPTOPTEROMYIA Williston

Leptopteromyia Williston, 1907: p. 1. *Nomen nudum*; Williston, 1908: p. 195, fig. 35, lateral aspect of body of *L. gracilis*; Aldrich, 1923: p. 3; Hermann, 1924: p. 143; Hardy, 1947: p. 72-74; Carrera, 1947: p. 89-96 (Neotype).

Antennal segment 3 discoid with long style extending from dorsal surface, eyes nearly contiguous below antennae; halteres about as long as thorax, one group of *Leptopteromyia* with longitudinal thoracic stripes, and one without stripes; abdomen very slender, tergites 2 and 3 of *L. americana* abut, hiding sternites 2 and 3, but these sternites visible in all other species, tergite 5 of four species yellow with brown markings, other species with tergite 5 brown; male genitalic structures differ from those of other Leptogastridae; wings with four posterior cells, costal and subcostal veins coalescing on apical half, wing veins with or without hair, but when present pattern differs from that of the hairy-veined *Schildia* Aldrich.

Hardy (1947) indicated that *Leptopteromyia* is sexually dimorphic. Apparently Hardy's figure 1b illustrates the thoracic pattern of the female of a second species. I have a female from Southmost, Cameron County, Texas, 25 March 1951 (R. H. Beamer) with a thoracic pattern similar to Hardy's (1947) figure 1f of the male and also to a male paratype at hand.

Leptopteromyia ranges from southern Texas, United States of America, to Tucuman, Argentina.

Dr. H. Sousa Lopes reports (Carrera, 1947) rearing *Leptopteromyia* from the nests of Embioptera in Brasil. Dr. E. S. Ross, California Academy of Sciences, reared a specimen of *L. peruae* Martin in Peru, and an undescribed teneral specimen in Guatemala from Embioptera nests. The teneral specimen belongs to the group with tergite 5 yellow with brown marks. The late Dr. R. H. Beamer reports (Hardy, 1947) *L. americana* Hardy in association with large numbers of Aleyrodidae.

KEY TO THE SPECIES OF LEPTOPTEROMYIA

1. Mesonotum yellowish or reddish, 3 dark red to blackish longitudinal stripes; tergite 2 with yellow band medially 4
 Mesonotum either chestnut or dark cherry red, without longitudinal stripes; tergite 2 without a band 2
- 2(1). Abdomen reddish brown, narrowly paler at joints of tergites; face reddish brown above, grayish below; length 6 mm. (Peru) *peruae* Martin, n. sp.
 Tergites 3-5 or 3-6 with narrow yellow bands either on anterior margins or both anterior and posterior margins 3
- 3(2). Face brown tomentose; posterior margin of scutellum blackish; tergite 5 dorsoposteriorly yellow; length 11 mm. (Brasil) ... *lopesi* Martin, n. sp.
 Face yellow tomentose; posterior margin of scutellum yellow; tergite 5 dorsoposteriorly brown; length 6-8 mm. (Brasil) ... *gracilis* Williston
- 4(1). Thoracic lateral stripes not extending to ventral margin of dorsum 7
 Thoracic stripes extending to ventral margin of dorsum 5
- 5(4). Tergite 5 of female dark reddish brown, of male a narrow anterior yellow band, dorsally posterior half more or less red, laterally broadly yellow; length 9 mm. (s. Brasil) *brasiliae* Martin, n. sp.
 Tergite 5 and apex of hind tibia reddish brown 6
- 6(5). Tergite 5 of male with anterior dorsal half dark brown extending as narrow stripes on posterior reddish half, of female totally dark reddish brown; clavus of hind femora with weak pale hair; length 7-8 mm. (s. Texas) *americana* Hardy
 Tergite 5 of both sexes totally reddish brown; dorsally clavus of hind femora with strong brown bristles; length 8 mm. (Argentina) *argentinae* Martin, n. sp.
- 7(4). Anterior humeri with brownish spot anterior to lateral stripe; tergite 5 yellow with small brownish triangle anteriorly, tergites 6-7 reddish brown, narrowly gray on posterior margins; length 9 mm. (Colombia) *colombiae* Martin, n. sp.
 Anterior humeri without spot; tergite 5 reddish white with more or less blackish irregular triangle anteriorly; tergites 6-7 black on margins; length 9 mm. (Sonora, Mexico) *mexicanae* Martin, n. sp.

SPECIES WITHOUT LONGITUDINAL STRIPES

LEPTOPTEROMYIA GRACILIS Williston

Leptopteromyia gracilis Williston, 1908: p. 195, fig. 35, lateral aspect; Carrera, 1947: p. 89-96, 7 figs.

Both *Leptopteromyia gracilis* Williston and *L. lopesi* Martin are without longitudinal thoracic stripes. Both are collected near Rio de Janeiro, Brasil, but *L. lopesi* is a long species with a brown tomentose face, while *L. gracilis* is a short species with a yellow tomentose face according to Carrera (1947).

These notes summarize a translation of Carrera's description of *L. gracilis* in Portuguese.

MALE AND FEMALE.—Sexual dimorphism not noted. Length 6-8 mm. Face black, sparse yellow tomentum, occipital bristles weak, black; thorax polished, dark chestnut without markings, posterior margins of mesonotum and scutellum whitish yellow tomentose; tergite 1 yellow tomentose, abdomen brown except yellow bands between tergites 2-3, 3-4, 5-6; clavus of hind femora with yellow band apically and basally; epandria notched at about one-third the distance from apex.

***Leptopteromyia lopesi* Martin, new species**

Leptopteromyia lopesi Martin is similar to *L. gracilis*, but the longer body and brown tomentose face separates it from *L. gracilis*.

MALE.—Length 11 mm. Face black, brown tomentose, behind ocellar tubercle a black polished triangle, occipital bristles black, palpi yellow, proboscis yellowish brown; style equal to length of antennal segments 2 + 3.

Thorax cherry red, polished, thoracic hair short, sparse, posterior humeri yellow, posterior border of mesonotum and scutellum red, white tomentose, pleura white tomentose.

Abdomen very slender, brownish red, anterior margins of tergites 3, 4, and 5 yellow, tergite 5 yellow on posterior margin, tergite 1 reddish brown tomentose; epandria broadly rounded apicoventrally, apicodorsally a long slender point (epandria of *L. gracilis* deeply notched).

Hind femora apicodorsally yellow.

Holotype male, RIO DE JANEIRO, MANGUMHOS, BRASIL, October 1956 (H. S. Lopes) (ABC).

***Leptopteromyia peruae* Martin, new species**

Leptopteromyia peruae Martin is the third species without longitudinal stripes on the thorax.

FEMALE.—Length 6 mm. Head black, two-thirds of face below antennae brown, lower third gray to brownish gray, front and occiput subshining brown, orbitals

and ocellar tubercle narrowly densely light brown tomentose; antennal segments 1 and 2 yellowish brown, segment 3 and style darker brown; mystax of four short reddish hairs, occipital bristles erect, dark brown.

Thorax brownish red, polished, laterally and posteriorly thinly white tomentose, few scattered erect brownish hairs anteriorly, slightly more abundant posteriorly; scutellum dark brown, yellowish tomentose; pleura brownish red, gray tomentose.

Abdomen reddish brown, narrowly lighter at joints of tergites; sparse short semi-recumbent brown hairs, tergites 5–8 laterally with stronger black bristles.

Wings faintly brownish.

Hind femora pale reddish brown, base of weak clavus with yellowish band, hind tibia pale reddish brown, a yellowish band closer to apex than to base.

Holotype female, TINGO MARIA, PERU, 8 November 1954 (Ross and Schlinger) (Emerged from Empioptera culture) (CAS).

SPECIES WITH LONGITUDINAL STRIPES

LEPTOPTEROMYIA AMERICANA Hardy

Leptopteromyia americana Hardy, 1947: p. 72–74.

Hardy (1947) described the thorax of *Leptopteromyia americana* as “Chiefly polished brown to black ground color, with two median yellow vittae.” In relation to other Leptogastridae the median stripe is black, and separated from the broad black lateral stripes by narrow yellow stripes.

Distribution. Type locality: Hidalgo, Texas. Paratypes: Hidalgo and Brownsville, Texas. Also, I have identified the species from Southmost, Cameron County, Texas.

***Leptopteromyia brasiliae* Martin, new species**

MALE.—Length 9 mm. Eyes nearly contiguous below the antennae; head black, face whitish gray tomentose, front and occiput light brown tomentose, orbitals darker; four whitish bristles in mystax, occipital bristles white, erect, long, numerous; proboscis brownish yellow.

Thorax reddish yellow, median stripe reddish brown, not reaching anterior declivity, lateral stripes reddish brown, broad, extending to lateroventral margin of thoracic disc, cleft anteriorly, laterally white tomentose over ventral margins of lateral stripes and posteriorly; scutellum brownish black, thinly white and brown tomentose, posterior margin dark brown; pleura yellowish above, blackish brown ventrally, thinly white tomentose.

Abdomen black to reddish black, tergite 2 with yellow band almost medially, yellow band on posterior margin, tergites 3 and 4 with yellow bands on anterior and posterior margins, tergite 5 dark reddish brown, abdomen with nearly erect black hairs.

Hind femora reddish brown, yellowish bands basally, clavus with rather broad yellow bands apically and basally, hind tibia blackish brown, yellow band medially, color lighter basally.

FEMALE.—Occiput light brown tomentose, orbitals more grayish than on male; tergites 5–8 dark reddish brown.

Holotype male, NOVA TEUTONIA, BRASIL, 22 November 1968 (Fritz Plaumann) (SPU). Paratype, female, same data as for holotype (CHM). Allotype, São Paulo, Baruci, 22 July 1955 (Lenko-Ag.) (SPU).

***Leptopteromyia colombiae* Martin, new species**

MALE.—Length 8 mm. Head black, face white tomentose, front gray tomentose, occiput below ocellar tubercle gray, laterally broadly grayish brown; mystax a pair of white hairs on each side of oral margin, occipital bristles below ocellar tubercle, and also ventrolaterally pale.

Thorax yellowish, shining, median stripe reddish brown, narrow, not reaching anterior declivity, brown spot on anterior humeri separate from lateral reddish brown stripes which do not reach lateroventral margin of mesothorax; laterally and posteriorly long white tomentum, sparse tomentum on lateral stripes; scutellum black, white tomentose, small brown spot above middle coxa and one below wing base, white tomentose.

Abdomen reddish brown, tergite 2 with yellow band anterior to middle, posterior margin with broad yellow band, tergites 3 and 4 with yellow bands on posterior margins, tergite 5 yellow, brown band near anterior margin extending medially as stripe, not reaching posterior margin, tergites 6–8 reddish brown; epandria pointed apically; vestiture pale on yellow areas, brown on dark areas.

Wings hyaline, costa and subcosta veins close together.

Hind femora pale, reddish brown basally, clavus with apical and basal yellow bands about as wide as median reddish band, hind tibia pale brown basally, yellowish band medially, clavus reddish brown, yellowish apically.

Holotype male, 11 MILES EAST OF CONGUEZA, CUNDIN AMARCA, COLOMBIA. 1340 meters elevation, 13 March 1955 (Schlinger and Ross) (CAS).

***Leptopteromyia mexicana* Martin, new species**

MALE.—Length 8 mm. Head black, face and front grayish white tomentose, occiput brownish gray tomentose, behind ocellar tubercle a triangle outlined by narrow polished black line, mystax a pair of white bristles on each side of oral margin, weak occipital bristles pale and beyond the orbitals.

Thorax reddish yellow, median stripe narrow, black, not reaching anterior declivity, lateral stripes narrow, black, not reaching anterior lateroventral margin of mesothorax, laterally thorax broadly white tomentose to lateral stripe, posteriorly broadly white tomentose, covering median and lateral stripes; scutellum black, white tomentose; pleura yellow, black spot above middle coxa, second black spot before wing base, white tomentose.

Tergite 2 black before reddish yellow band, reddish brown posteriorly, reddish yellow band on posterior margin, tergites 3 and 4 dark reddish, yellow bands on anterior and posterior margins, tergite 5 reddish laterally and narrowly dorso-

posteriorly, dorsally an obscure black stripe not reaching posterior margin, antero-laterally narrowly black, tergites 6–8 shining black, vestiture pale, apex of epan-drium truncate on posterior margin, a sharp triangular point extending upward above dorsal surface of epan-drium.

Wings hyaline; from posterior vein and apicad costa and subcosta veins coalesce.

Hind femora basally pale brown, clavus apically with reddish band broader than reddish black median band, base of clavus pale yellowish, hind tibia pale brown basally, medially a broad yellowish band about as broad as median dark reddish brown band.

Holotype male, BAHIA SAN CARLOS, SONORA, MEXICO, 11 April 1968 (E. M. Fisher) (CAS) (Edge of magroves).

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New Species of *Nemoura* from Western North America

(Plecoptera: Nemouridae)

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The Rocky Mountain species of the genus *Nemoura* were studied by Baumann (1970). This paper presents some of the results of that study. Three species new to science are described belonging to the subgenera *Soyedina* and *Zapada* of Ricker (1952).

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